

## **Appendix P. Vernier Caliper Instructions**

Calipers are used to collect the following measurements:

- Pot entrance ring diameter on the Lobster, Fish and Crab Pot Gear Characteristics Log.
- Escape vent length and height on the Lobster, Fish and Crab Pot Gear Characteristics Log.
- Inside and outside ring diameter and twine top inside mesh measurements on the Scallop Dredge Gear Characteristics Log.
- Codend and codend liner inside mesh measurements on the Trawl/Pair Trawl Gear Characteristics Logs.
- Lobster carapace length on the Crustacean Sample Log.
- Crab carapace width on the Crustacean Sample Log.
- Net inside mesh size measurements on the Gillnet Gear Characteristics Log.
- Net and bunt inside mesh size measurements on the Beach Seine Gear Characteristics Log.

### **GENERAL INSTRUCTIONS**

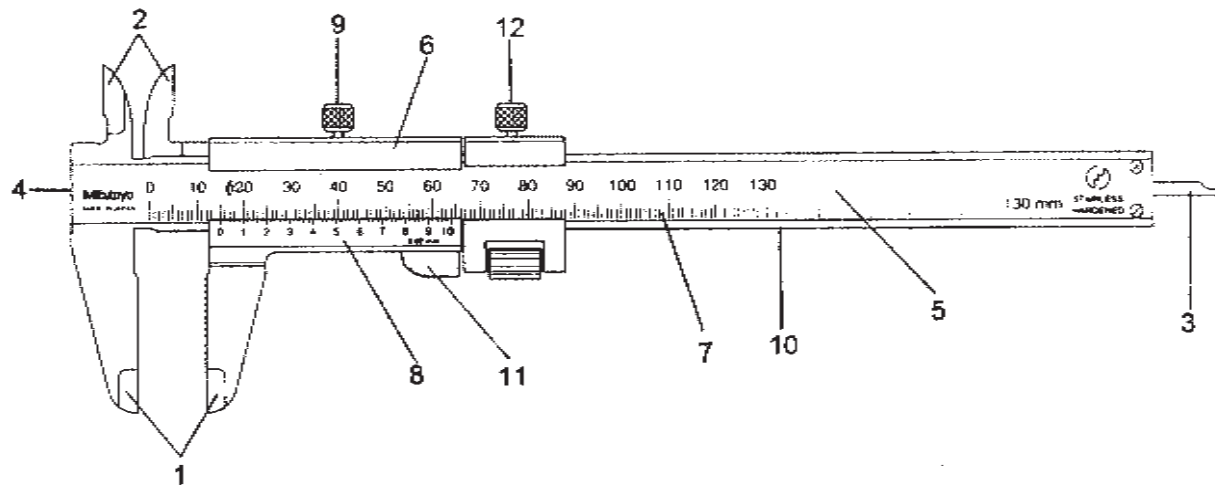
- Reference Figure 1.
- The Vernier Calipers should be used when requested in the manual instructions. Do not substitute measurements obtained from any other tool. If caliper measurements are not possible, measurements should be recorded in the COMMENT section of the corresponding log.
- The calipers are used by grasping the main beam between the palm and fingers, while pushing or pulling the slide with the thumb on the knurled thumb rest.
- The thumb should exert approximately 5 pounds of force in either direction while the measurement is read. Do not apply excessive measurement force, as this will distort the measurements.
- The slider may be clamped with the clamp screw for easier reading of the scale.
- Measurements are read at the zero mark of the slider. Use the top of the main scale to obtain measurements to the nearest millimeter.
- Do not use the fine adjustment or the vernier scale.

### **OUTSIDE MEASUREMENTS**

- Use for scallop ring outside measurements, clam/quahog measurements and crustacean carapace measurements.
- Place item to be measured as close to the reference surface as possible, making its edges contact the outside jaws as perfectly as possible.

### **INSIDE MEASUREMENTS**

- Use for mesh measurement, scallop ring inside measurements and lobster pot escape vent measurements.
- Place the inside jaws as deep as possible into the item to be measured, making as perfect a contact as possible.
- Measure in a straight line. Do not allow the calipers to measure at an angle.
- When measuring mesh, do not apply excessive force to stretch the mesh too much beyond its normal hanging configuration.



- |    |               |     |                              |
|----|---------------|-----|------------------------------|
| 1. | Outside jaws. | 7.  | Main Scale.                  |
| 2. | Inside jaws.  | 8.  | Vernier scale- do not use.   |
| 3. | Depth bar.    | 9.  | Clamp screw.                 |
| 4. | Step surface. | 10. | Reference Surface.           |
| 5. | Main beam.    | 11. | Knurled thumb rest.          |
| 6. | Slider.       | 12. | Fine adjustment- do not use. |

Figure 1. Vernier Caliper parts.

## PROPER VERNIER CALIPER MAINTENANCE

- Wipe dust and dirt from all surfaces and rinse in fresh water after each use.
- Apply WD-40 to the sliding surfaces. Lack of lubrication may cause scratching on the sliding surfaces.
- Before storage, make sure the zero lines align when the jaws are closed, with no space observed between the jaws.
- Store calipers in their plastic sheath in a safe place when not in use.